

Amendments to the Claims:

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

1 **Claim 1 (currently amended):** Method for
2 ~~manoeuvring~~maneuvering a self-propelling device (5) by
3 means of an electronic navigational control system
4 comprising at least a navigational control station (3)
5 connected to at least one signal generator (1) and one
6 sensing unit (14,15,16) arranged at the self-propelling
7 device (5), whereby the sensing unit (14,15,16) at least
8 senses an, in the air-medium propagating, time and space
9 varying magnetic field, transmitted by the navigational
10 control station (3) and in turn retransmits at least one,
11 by the sensing unit (14,15,16) processed signal to at least
12 one drive source that contributes to the device's (5)
13 movements across a surface, the signal generator (1) sends
14 a current through the navigational control system (3), the
15 current generating the time and space varying magnetic
16 field (43,44,52,54), whereby the sensing unit (14,15,16)
17 ~~manoeuvres~~maneuvers the device (5) based on the properties
18 of the sensed magnetic field (43,44,52,54),
19 characterised in that said sensed magnetic field
20 (43,44,52,54), in an area mainly within the range of the
21 navigational control station (3), at least at one point of
22 time has different directions (50,51).

1 **Claim 2 (currently amended):** Method according to
2 patent claim 1 characterised in that the device (5), when
3 moving mainly outside the range of the navigational control
4 station and sensing a change in the magnetic field (44,54),
5 ~~manoeuvres~~maneuvers itself in relation to the navigational
6 control station (3) so that it by means of one or many
7 ~~manoeuvres~~maneuvers will approach, essentially stay at a
8 constant distance from or distance itself from the
9 navigational control station (3), alternatively stop and/or
10 turn.

1 **Claim 3 (previously presented):** Method according to
2 patent claim 2 characterised in that the device (5), when
3 moving in a course direction and senses an unchanged
4 magnetic field strength (44,54), changes directions 90
5 degrees, that the device, when moving in a course direction
6 and senses an increased magnetic field strength (44,54),
7 continues in the same course direction and that the device,
8 when moving in a course direction and senses a decreased
9 magnetic field strength (44,54), changes course directions
10 180 degrees.

1 **Claim 4 (currently amended):** Method according to ~~any~~
2 ~~of the patent claims 2-3~~patent claim 2 characterised in
3 that the device (5) moves in a course direction that

4 corresponds to that the sensed magnetic field (44, 54) is
5 constant.

1 **Claim 5 (currently amended):** Method according to any
2 ~~of the patent claims 2-4~~patent claim 2 characterised in
3 that the device (5), when sensing that the magnetic field
4 (44,54) changes directions (55), continues to move a
5 certain distance in the same direction, then stops and
6 turns until it again detects that the magnetic field
7 (44,54) changes directions (55), whereupon it moves
8 essentially in the same direction as a line (55), which
9 ties together points where the sensed magnetic field
10 (44,54) changes directions.

1 **Claim 6 (currently amended):** Method according to any
2 ~~of the previous patent claims~~patent claim 1 characterised
3 in that the sensing unit (14,15,16), when sensing the
4 magnetic field (43,52) within the range of the navigational
5 control station (3), adapts its processing of the sensed
6 magnetic field (43,52).

1 **Claim 7 (currently amended):** Method according to any
2 ~~of the previous patent claims~~patent claim 1 characterised
3 in that at least one signal generator (1) sends a first
4 current through the navigational control station (3),
5 whereby the magnetic field (43,44), generated by the

6 current at a point of time mainly inside the range of the
7 navigational control station (3), has a direction
8 essentially opposed to the direction of the magnetic field
9 (43,44) at the same point of time mainly outside of the
10 mentioned range.

1 **Claim 8 (currently amended):** Method according to any
2 ~~of the previous patent claims~~patent claim 1 characterised
3 in that at least one signal generator (1) sends a second
4 current ~~trough~~through the navigational control station (3)
5 and the mentioned (1) or another signal generator (1) sends
6 a third current through the navigational control station
7 (3), whereby the magnetic field (43,44), generated by the
8 second current in a second area mainly within the range of
9 the navigational control station (3), at a point of time
10 has a direction essentially corresponding to the direction
11 (46) of the magnetic field (43,44) generated by the third
12 current at the same point of time in a third area mainly
13 within the range of the navigational control station (3).

1 **Claim 9 (currently amended):** Method according to any
2 ~~of the patent claims 1-7~~patent claim 1 characterised in
3 that at least one signal generator (1) sends a second
4 current ~~trough~~ the navigational control station (3) and the
5 mentioned (1) or another signal generator (1) sends a third
6 current through the navigational control station (3),

7 whereby the magnetic field (52,54), generated by the second
8 current in a second area mainly within the range of the
9 navigational control station (3), at a point of time has a
10 direction essentially opposite to the direction (50,51) of
11 the magnetic field (52,54) generated by the third current
12 at the same point of time in a third area mainly within the
13 range of the navigational control station (3).

1 **Claim 10 (currently amended):** Method according to any
2 ~~of the patent claims 8-9~~patent claim 8 characterised in
3 that the second current corresponds to the third current.

1 **Claim 11 (previously presented):** Method according to
2 patent claim 9 characterised in that outside and within the
3 range of the navigational control station an undefined area
4 (55) is created that essentially defines two areas, which
5 at a point of time have magnetic fields essentially opposed
6 to each other.

1 **Claim 12 (currently amended):** Method according to any
2 ~~of the patent claims 8-11~~patent claim 8 characterised in
3 that the direction (46,50,5 1) of the magnetic fields
4 (43,44,52,54) generated in the second and third areas
5 depend, on the properties of the sent currents.

1 **Claim 13 (currently amended):** Method according to any

2 ~~of the previous patent claims~~patent claim 1 characterised
3 in that at least one current in the system constitutes a
4 sinus component.

1 **Claim 14 (currently amended):** Method according to ~~any~~
2 ~~of the previous patent claims~~patent claim 1 characterised
3 in that at least one current sent in the system most of the
4 time is in a state of rest when it is mainly constant,
5 whereby periodically the state of rest is interrupted by at
6 least one characteristic reference current pulse (7,9,11).

1 **Claim 15 (previously presented):** Method according to
2 patent claim 14 characterised in that the sensing unit
3 (14,15,16), knowing the properties of the reference pulse
4 (7), adapts the time intervals within which the sensing
5 unit (14,15,16) sense magnetic fields.

1 **Claim 16 (previously presented):** Method according to
2 patent claim 15 characterised in that adaptation means that
3 the sensing unit (14,15,16) synchronises the unit's
4 (14,15,16) working frequency in the time domain based on
5 the reference current pulse (7).

1 **Claim 17 (currently amended):** Method according to ~~any~~
2 ~~of the patent claims 15-16~~patent claim 15 characterised in
3 that adaptation means that the sensing unit (14,15,16)

4 synchronises the properties of the time intervals in the
5 time domain based on the properties of the reference
6 current pulse (7,9,11).

1 **Claim 18 (currently amended):** Method according to any
2 ~~of the patent claims 14-17~~patent claim 14 characterised in
3 that each signal generator (1) in the navigational control
4 system synchronises its sent current pulses (7,9,11) with
5 the other current pulses (7,9,11) in the system so that no
6 current pulses (7,9,11) coincide at the same time during
7 the same signal period (8).

1 **Claim 19 (currently amended):** Method according to any
2 ~~of the patent claims 8-12 and any of the patent claims 14-~~
3 ~~18~~patent claim 8 characterised in that the magnetic field's
4 (43,44,52,54) direction (46,50,51) within the second and
5 the third areas respectively at a point of time depends on
6 the properties and the occurrence of current pulses
7 (7,9,11).

1 **Claim 20 (currently amended):** Method according to
2 patent claim [[22]]8 characterised in that when a first
3 current pulse N7 (9) occurs, the magnetic field (54) in the
4 second area, at a point of time, shows a direction (50)
5 essentially opposed to the direction (51) of the magnetic
6 field at the same point of time in the third area and when

7 another current pulse F9 (11) occurs, the magnetic field
8 (54) in the second area, at a point of time, shows a
9 direction (46) essentially corresponding to the direction
10 (46) of the magnetic field in the third area.

1 **Claim 21 (previously presented):** Electronic
2 navigational control system for a self-propelling device
3 (5), the system comprising at least one navigational
4 control station (3) connected to at least one signal
5 generator (1) and a sensing unit (14,15,16) arranged at the
6 self-propelling device (5), whereby the sensing unit
7 (14,15,16) senses at least one time and space varying and
8 in the air medium propagating magnetic field, at least
9 transmitted via the navigational control station (3), in
10 turn re-transmitting at least one, by the sensing unit
11 (14,15,16) processed, signal to at least one driving source
12 that contributes to the device's movements across an area,
13 the system comprises means by which the signal generator
14 (1) sends a current through the navigational control
15 station (3), the current generating the time and space
16 varying magnetic field (43,44,52,54), whereby the sensing
17 unit (14,15,16) comprises means by which the device (5) is
18 manoeuvred based on the properties of the sensed
19 magnetic field (43,44,52,54),
20 characterised in that that said sensed magnetic field
21 (43,44,52,54), in an area mainly within the range of the

22 navigational control station (3), at least at one point of
23 time has different directions (50,51).[[.]]

1 **Claim 22 (previously presented):** Electronic
2 navigational control system according to patent claim 21
3 characterised in that at least one current being sent in
4 the system during the main part of the time is in a state
5 of rest, where it is essentially constant, whereby the
6 state of rest is periodically interrupted by at least one
7 characteristic reference current pulse (7,9,11).

1 **Claim 23 (currently amended):** Electronic navigational
2 control system according to ~~any of the patent claims~~
3 ~~21-22~~patent claim 21 characterised in that the navigational
4 control station (3) comprises a first loop (6) which
5 surrounds a first area, said loop extends in one plane.

1 **Claim 24 (currently amended):** Electronic navigational
2 control system according to ~~any of the patent claims~~
3 ~~21-23~~patent claim 23 characterised in that the navigational
4 control station (3) comprises a second and a third loop
5 (4), whereby the second loop (4) surrounds a second area
6 and the third loop (4) surrounds a third area.

1 **Claim 25 (currently amended):** Electronic navigational
2 control system according to patent claim 24 characterised

3 in that the respective loop (4,6) extends in one plane.

1 **Claim 26 (currently amended):** Electronic navigational
2 control system according to ~~any of the claims 23-25~~^{patent}
3 ~~claim 23~~ characterised in that the plane extends parallel
4 to the ground surface or vertical to the ground surface.

1 **Claim 27 (currently amended):** Electronic navigational
2 control system according to ~~any of the patent claims~~
3 ~~23-26~~^{patent}~~claim 23~~ characterised in that at least one
4 loop constitutes an electric conductor that is placed
5 above, in or below the continuous surface across which the
6 device is intended to move.

1 **Claim 28 (currently amended):** Electronic navigational
2 control system according to ~~any of the patent claims~~
3 ~~23-27~~^{patent}~~claim 23~~ characterised in that at least one
4 loop constitutes a continuous electric conductor that is
5 wound in more than one turn.

1 **Claim 29 (previously presented):** Electronic
2 navigational control system according to patent claim 28
3 characterised in that the electric conductor constitutes a
4 fix guide path placed on a carrier.

1 **Claim 30 (currently amended):** Electronic navigational

2 control system according to ~~any of the claims 21 - 29~~ patent
3 claim 21 characterised in that by a self-propelling device
4 (5) is meant an operating robot comprising a operating
5 system for working on the surface across which the robot is
6 moving.

1 **Claim 31 (previously presented):** Electronic
2 navigational control system according to patent claim 30
3 characterised in that the operating system is controlled
4 based on information received and/or stored for processing
5 by the sensing unit (14,15,16).

1 **Claim 32 (currently amended):** Electronic navigational
2 control system according to ~~any of the patent~~ claims
3 ~~30-31~~ patent claim 30 characterised in that the robot
4 constitutes a lawn-mowing robot, whereby the operating
5 system constitutes knives which, when moving, cut off the
6 biological material growing on the surface.

1 **Claim 33 (currently amended):** Electronic navigational
2 control system according to ~~any of the patent~~ claims
3 ~~30-31~~ patent claim 30 characterised in that the robot
4 constitutes a vacuum cleaning robot, whereby the operating
5 system comprises the parts with which a vacuum cleaning
6 robot is normally equipped for cleaning the surface from
7 dirt, for instance a rotating brush and a suction device.

1 **Claim 34 (currently amended):** Electronic navigational
2 control system according to ~~any of the patent claims~~
3 ~~30-31~~patent claim 30 characterised in that the robot
4 constitutes a cleaning robot, whereby the operating system
5 comprises the parts with which a cleaning robot is normally
6 equipped for cleaning the surface from dirt, for instance
7 tools for wet-cleaning.

1 **Claim 35 (new):** Method according to patent claim 9,
2 wherein the second current corresponds to the third
3 current.

1 **Claim 36 (new):** Method according to patent claim 9,
2 wherein the direction of the magnetic fields generated in
3 the second and third areas depend on the properties of the
4 sent currents.